

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/034,451	MIRKIN ET AL.	
	Examiner	Art Unit	
	Teresa E. Strzelecka	1637	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed May 5, 2006.
2. ☒ The allowed claim(s) is/are 55-68 and 85.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### DETAILED ACTION

1. This office action is in response to an amendment filed May 5, 2006. Claims 37-43, 45-71, 73-75 and 77-85 were previously pending. Applicants cancelled claims 37-43, 45-54, 69-71, 73-75 and 77-84 and amended claim 85. Claims 55-68 and 85 are pending.
2. Applicants' claim cancellations overcame the following rejections: rejection of claims 37, 38, 40-42 and 46-51 under 35 U.S.C. 102(e) as anticipated by Cheon et al.; rejection of claims 39, 43, 45, 52-54, 69-71, 73-75 and 82-84 under 35 U.S.C. 103(a) over Cheon et al. and Mirkin et al.; rejection of claims 37-41, 43, 45-54, 69-71, 73, 75 and 77-84 under 35 U.S.C. 103(a) over Abbott et al., Mirkin et al. and Yguerabide et al.
3. Claims 55-68 and 85 are allowed.
4. The following is an examiner's statement of reasons for allowance: Applicants' invention is a method of making conjugates of core/shell nanoparticles with oligonucleotides by preparing magnetic core/gold shell nanoparticles by treating magnetic cores with simultaneous addition of a solution which comprises a gold salt and reducing agent to form a reaction mixture having a gold salt concentration of about 2  $\mu$ M, contacting the nanoparticles with oligonucleotides in a first solution where oligonucleotides bind to the particles, adding at least one salt to the solution and contacting oligonucleotides and nanoparticles in the second solution for an additional period of time, as well as the method of using the oligonucleotide-nanoparticle conjugates to detect nucleic acid hybridization. No references were found teaching or suggesting claims 55-68 and 85. The closest prior art reference, Cheon et al., teaches formation of core/shell nanoparticles bound to oligonucleotides, but do not teach a process of shell formation which results in gold salt concentration in solution of about 2  $\mu$ M, or using core/shell nanoparticle conjugates with a shell thickness of claim 85 in nucleic acid detection.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa E. Strzelecka whose telephone number is (571) 272-0789. The examiner can normally be reached on M-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Teresa E Strzelecka  
Primary Examiner  
Art Unit 1637

*Teresa Strzelecka*  
6/30/06